

Notice of Allowability

Application No.

09/810,919

Examiner

Brian J. Sines

Applicant(s)

PELRINE ET AL.

Art Unit

1743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the RCE filed 5/11/2004.
2. ☒ The allowed claim(s) is/are 66-70,75-78 and 91-93.
3. ☒ The drawings filed on 3/16/2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

Allowable Subject Matter

Claims 66 – 70, 75 – 78 and 91 – 93 are allowed.

The following is an examiner's statement of reasons for allowance:

The cited prior art teach various methods and devices for performing chemical manipulations using electrical phenomena. The cited prior art neither teach or fairly suggest an apparatus for exposing a magnetic microparticle, wherein the apparatus comprises: a diamagnetic substrate, which is for the levitation of said microparticle, comprising a workplace defining $x - y$ coordinates; a plurality of stations located at different known workplace $x - y$ coordinates, wherein each station comprises a chamber for holding a selected liquid, and a chamber opening forming a gas/liquid interface when the chamber contains such liquid, wherein each station is adapted to carry out or participate in one or more selected operations; a driving structure positioned adjacent said workplace, wherein said driving structure comprises drive elements selectively energizable to cause an interaction between selected energized drive elements and one or more selected microparticles, to move said microparticles between selected workplace $x - y$ coordinates, with said microparticles in a levitated state, through interaction of said drive element with said microparticles' dipoles, and to cause an interaction between selected energized drive elements and one or more selected microparticles, to move said microparticles across said gas/liquid interfaces at said stations; and a controller operatively linked to said drive elements for energizing said drive elements to move said one or more selected microparticles between or among selected stations, and in and out of stations, to accomplish a desired laboratory-activity.

The cited prior art neither teach or fairly suggest an apparatus for use in performing multi-particle operations, wherein the apparatus comprises: a diamagnetic substrate having a workplace defining x – y coordinates and a plurality of workstations; a plurality of magnetic microparticles adapted to move over the surface of said workplace between and among workstations; a driving structure positioned adjacent said workplace, wherein said driving structure comprises a plurality of drive elements selectively energizable to move a linear train of selected microparticles coordinately between selected workplace x – y coordinates, with said microparticles in a levitated state, through interactions of said drive elements with said microparticles' dipoles; and a controller operatively linked to said drive elements for energizing said drive elements to move said microparticles between or among selected x – y coordinates to accomplish said multi-particle operation.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Sines, Ph.D. whose telephone number is (571) 272-1263. The examiner can normally be reached on Monday - Friday (11:30 AM - 8 PM EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 1743

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jill Warden
Supervisory Patent Examiner
Technology Center 1700